

Subtracting Fractions Practice

Name: _____

Date: _____

Question 1

Add the fractions and simplify the final result if possible

I. $\frac{2}{3} - \frac{2}{7} =$

II. $\frac{3}{11} - \frac{4}{33} =$

III. $\frac{7}{8} - \frac{6}{8} =$

IV. $\frac{32}{32} - \frac{5}{24} =$

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V. $\frac{5}{15} - \frac{5}{25} =$

VI. $\frac{105}{27} - \frac{94}{36} =$

VII. $5 - \frac{9}{5} =$

VIII. $\frac{5}{3} - \frac{7}{8} =$

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Question 2

Subtract the fractions and simplify the final result if possible

(prime factorization will be required to find the least common denominator)

(long division will be required to determine the amount to multiply each fraction by)

I. $\frac{18}{32} - \frac{8}{53} =$

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II. $\frac{51}{102} - \frac{9}{82} =$

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III. $\frac{32}{23} - \frac{1}{22} =$

Subtracting Fractions Practice

Name: _____ **Key** _____

Date: _____

Question 1

Add the fractions and simplify the final result if possible

I. $\frac{2}{3} - \frac{2}{7} = \frac{8}{21}$

$3: \overset{x1}{3}, \overset{x2}{6}, \overset{x3}{9}, \overset{x4}{12}, \overset{x5}{15}, \overset{x6}{18}, \overset{x7}{21}$

$7: \overset{x1}{7}, \overset{x2}{14}, \overset{x3}{21}$

LCM: 21

$$\frac{7}{7} \cdot \frac{2}{3} - \frac{2}{7} \cdot \frac{3}{3} = \frac{14}{21} - \frac{6}{21} = \frac{8}{21}$$

II. $\frac{3}{11} - \frac{4}{33} = \frac{5}{33}$

$11: \overset{x1}{11}, \overset{x2}{22}, \overset{x3}{33}$

$33: \overset{x1}{33}$

LCM: 33

$$\frac{3}{3} \cdot \frac{3}{11} - \frac{4}{33} \cdot \frac{1}{1} = \frac{9}{33} - \frac{4}{33} = \frac{5}{33}$$

III. $\frac{7}{8} - \frac{6}{8} = \frac{1}{8}$

$$\frac{7}{8} - \frac{6}{8} = \frac{1}{8}$$

IV. $\frac{32}{32} - \frac{5}{24} = \frac{19}{24}$

$24: \overset{x1}{24}, \overset{x2}{48}, \overset{x3}{72}, \overset{x4}{96}$

$32: \overset{x1}{32}, \overset{x2}{64}, \overset{x3}{96}$

LCM: 96

$$\frac{3}{3} \cdot \frac{32}{32} - \frac{5}{24} \cdot \frac{4}{4} = \frac{96}{96} - \frac{20}{96} = \frac{76}{96} \xrightarrow{\text{Simplify}} \frac{19}{24}$$

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V. $\frac{5}{15} - \frac{5}{25} = \frac{2}{15}$

15: $\overset{x1}{15}, \overset{x2}{30}, \overset{x3}{45}, \overset{x4}{60}, \overset{x5}{75}$

25: $\overset{x1}{25}, \overset{x2}{50}, \overset{x3}{75}$

LCM: 75

$$\frac{5}{5} \cdot \frac{5}{15} - \frac{5}{25} \cdot \frac{3}{3} = \frac{25}{75} - \frac{15}{75} = \frac{10}{75} \xrightarrow{\text{Simplify}} \frac{2}{15}$$

VI. $\frac{105}{27} - \frac{94}{36} = \frac{23}{18}$

27: $\overset{x1}{27}, \overset{x2}{54}, \overset{x3}{81}, \overset{x4}{108}$

36: $\overset{x1}{36}, \overset{x2}{72}, \overset{x3}{108}$

LCM: 108

$$\frac{4}{4} \cdot \frac{105}{27} - \frac{94}{36} \cdot \frac{3}{3} = \frac{420}{108} - \frac{282}{108} = \frac{138}{108} \xrightarrow{\text{Simplify}} \frac{23}{18}$$

VII. $5 - \frac{9}{5} = \frac{16}{5}$

1: $\overset{x1}{1}, \overset{x2}{2}, \overset{x3}{3}, \overset{x4}{4}, \overset{x5}{5}$

5: $\overset{x1}{5}$

LCM: 5

$$\frac{5}{5} \cdot \frac{5}{1} - \frac{9}{5} \cdot \frac{1}{1} = \frac{25}{5} - \frac{9}{5} = \frac{16}{5} \text{ OR } 3\frac{1}{5}$$

VIII. $\frac{5}{3} - \frac{7}{8} = \frac{19}{24}$

3: $\overset{x1}{3}, \overset{x2}{6}, \overset{x3}{9}, \overset{x4}{12}, \overset{x5}{15}, \overset{x6}{18}, \overset{x7}{21}, \overset{x8}{24}$

8: $\overset{x1}{8}, \overset{x2}{16}, \overset{x3}{24}$

LCM: 24

$$\frac{8}{8} \cdot \frac{5}{3} - \frac{7}{8} \cdot \frac{3}{3} = \frac{40}{24} - \frac{21}{24} = \frac{19}{24}$$

Subtracting Fractions Practice

Question 2

Subtract the fractions and simplify the final result if possible

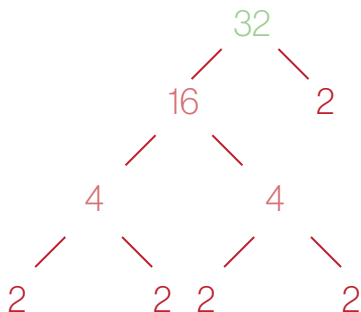
(prime factorization will be required to find the least common denominator)

(long division will be required to determine the amount to multiply each fraction by)

I. $\frac{18}{32} - \frac{8}{53} = \frac{349}{848}$

prime number

53



Prime Factorization $32: 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \longrightarrow 2^5 \longrightarrow 2^5$

Prime Factorization $53: 53 \longrightarrow 53 \longrightarrow 53$

LCM: $2^5 \cdot 53 = 1,696$

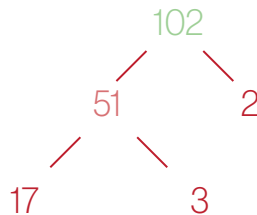
$$\begin{array}{r} 32 \overline{) 1,696.} \\ \underline{-160} \downarrow \\ 96 \\ \underline{-96} \\ 0 \end{array}$$

$$\begin{array}{r} 53 \overline{) 1,696.} \\ \underline{-159} \downarrow \\ 106 \\ \underline{-106} \\ 0 \end{array}$$

$$\frac{53}{53} \cdot \frac{18}{32} - \frac{8}{53} \cdot \frac{32}{32} = \frac{954}{1,696} - \frac{256}{1,696} = \frac{698}{1,696} \xrightarrow{\text{Simplify}} \frac{349}{848}$$

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II. $\frac{51}{102} - \frac{9}{82} = \frac{16}{41}$



Prime Factorization $82: 41 \cdot 2 \longrightarrow 41 \cdot 2 \longrightarrow 41 \cdot 2$

Prime Factorization $102: 17 \cdot 2 \cdot 3 \longrightarrow 17 \cdot 2 \cdot 3 \longrightarrow 17 \cdot 2 \cdot 3$

LCM: $2 \cdot 3 \cdot 17 \cdot 41 = 4,182$

$$\begin{array}{r} \text{0051.} \\ 82 \overline{) 4,182.} \\ \underline{-410} \downarrow \\ 82 \\ \underline{-82} \\ 0 \end{array}$$

$$\begin{array}{r} \text{0041.} \\ 102 \overline{) 4,182.} \\ \underline{-408} \downarrow \\ 102 \\ \underline{-102} \\ 0 \end{array}$$

$$\frac{41}{41} \cdot \frac{51}{102} - \frac{9}{82} \cdot \frac{51}{51} = \frac{2,091}{4,182} - \frac{459}{4,182} = \frac{1,632}{4,182} \xrightarrow{\text{Simplify}} \frac{16}{41}$$

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$$\text{III. } \frac{32}{23} - \frac{1}{22} = \frac{681}{506}$$



prime number

23

Prime Factorization $22: 2 \cdot 11 \longrightarrow 2 \cdot 11 \longrightarrow 2 \cdot 11$

Prime Factorization $23: 23 \longrightarrow 23 \longrightarrow 23$

LCM: $2 \cdot 11 \cdot 23 = 506$

$$\begin{array}{r} 22 \overline{) 506.} \\ \underline{-44} \downarrow \\ 66 \\ \underline{-66} \\ 0 \end{array}$$

$$\begin{array}{r} 23 \overline{) 506.} \\ \underline{-46} \downarrow \\ 46 \\ \underline{-46} \\ 0 \end{array}$$

$$\frac{22}{22} \cdot \frac{32}{23} - \frac{1}{22} \cdot \frac{23}{23} = \frac{704}{506} - \frac{23}{506} = \frac{681}{506} \text{ OR } 1 \frac{175}{506}$$